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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

L. Robert Deardurff

Serial No. 10/689,357

Filed: October 20, 2003

For: PROCESS FOR PREPARING A BLOW  
MOLDING PREFORM

)

) Group Art Unit: 1732

)

) Examiner: Matthew J. Daniels

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) Attorney Docket: 1-36728

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June 6, 2006

Mail Stop APPEAL BRIEF - PATENTS

Commissioner for Patents

P.O. Box 1450

Alexandria VA 22313-1450

BRIEF ON APPEAL

Honorable Sir:

This is an appeal under 37 CFR 41.37 from the action of the Examiner dated March 8, 2006, finally rejecting Claims 1 – 10 in the above-identified application. Appellant is herewith filing a timely Notice of Appeal under 37 CFR 41.31.

The Commissioner is hereby authorized to charge \$250.00 and any other fees associated with this appeal to Deposit Account No. 50-3156.

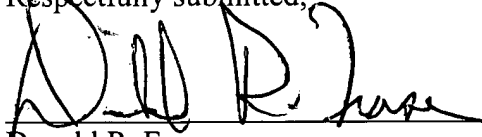
A decision on whether to request an oral hearing will be delayed until after the Examiner's Answer has been received.

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Respectfully submitted,

A handwritten signature in black ink, appearing to read "Donald R. Fraser", written over a horizontal line.

Donald R. Fraser

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### REAL PARTY IN INTEREST

The Inventor, L. Robert Deardurff, is a resident of Waterville, Ohio.

### RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences that will directly affect, or be directly affected by, or have a bearing on, the Board's decision in this pending Appeal.

### STATUS OF CLAIMS

Claims 1 - 10 stand rejected, and are being appealed.

### STATUS OF AMENDMENTS

There are no amendments pending in the application.

### SUMMARY OF THE CLAIMED SUBJECT MATTER

References hereunder are to the Paragraph numbers of the published application No. 2004/0094876 A1.

Appellants' invention as set forth in Claim 1 is directed to a process for preparing a blow molding preform. The process comprises the steps of:

- 1) melting polymer flakes in a plasticating screw extruder, to prepare a homogeneous stream of hot polymer melt at the discharge of the extruder (Paragraphs 10 and 13);
- 2) cooling the polymer melt stream to a temperature at least 20 degrees Centigrade below the extruder discharge temperature, by heat exchange with a liquid heat transfer medium (Paragraphs 10, 14, and 15); and
- 3) forming the cooled polymer melt into a blow molding preform (Paragraphs 10 and 16).

All of the dependant Claims 2 – 6 contain at least the same elements and limitations as Claim 1.

Appellants' invention as set forth in Claim 7 is directed to an alternative process for preparing a blow molding preform. The process comprises the steps of:

- 1) melting polymer flakes, comprising polyethylene terephthalate, polyolefin, polyester, polyamide, acrylonitrile acid ester, vinyl chloride, or a derivative, blend, or a copolymer thereof, in a plasticating screw extruder, to prepare a homogeneous stream of hot polymer melt at the discharge of

the extruder, the temperature of the polymer melt at the discharge of the extruder ranging from about 225 degrees Centigrade to about 325 degrees Centigrade (Paragraphs 10 and 13);

2) cooling the polymer melt stream to a temperature at least 20 degrees Centigrade below the extruder discharge temperature, by heat exchange with a liquid heat transfer medium (Paragraphs 10, 14, and 15); and

3) forming the cooled polymer melt into a blow molding preform (Paragraphs 10 and 16).

Dependant Claims 8 and 9 contain at least the same elements and limitations as Claim 1.

Appellants' invention as set forth in Claim 10 is directed to yet another alternative process for preparing a blow molding preform. The process comprises the steps of:

1) melting polymer flakes, comprising polyethylene terephthalate, in a plasticating screw extruder, to prepare a homogeneous stream of hot polymer melt at the discharge of the extruder, the temperature of the polymer melt at the discharge of the extruder ranging from about 260 degrees Centigrade to about 290 degrees Centigrade (Paragraphs 10 and 13);

2) cooling the polymer melt stream to a temperature at least 20 degrees Centigrade below the extruder discharge temperature, by heat exchange with a liquid heat transfer medium (Paragraphs 10, 14, and 15); and

3) forming the cooled polymer melt into a blow molding preform (Paragraphs 10 and 16).

### GROUND'S OF REJECTION TO BE REVIEWED ON APPEAL

#### ISSUE I

Whether Claims 1 – 3 and 5 – 10 are unpatentable under 35 USC 103(a) as being obvious over U.S. Patent No. 4,150,079 to Chang (Chang) in view of U.S. Patent No. 4,476,170 to Jabarin (Jabarin).

#### ISSUE II

Whether Claim 4 is unpatentable under 35 USC 103(a) as being obvious over Chang in view of Jabarin and further in view of U.S. Patent No. 6,320,014 to Takahashi (Takahashi).

## ARGUMENT I

Chang discloses a method for injection forming a polymer preform while controlling the crystallization of the thermoplastic material. Chang's process comprises filling a mold cavity with thermoplastic, and applying various pressure regiments to the thermoplastic while it is cooled within the mold. The nozzle 21 of the plasticizer 20 feeds thermoplastic polymer directly into an accumulation chamber 32, and thereafter into the mold 40 (column 8, lines 44-46). The mold 40 is cooled by internal channels 44 (column 8, line 67). In fact, Chang teaches that cooling takes place only at one location, viz, within the forming mold (see column 2, line 46, column 5, line 17, column 7, lines 11-12, etc.). Thus, Chang fails to disclose at least step 2 of Appellant's process, viz, cooling the polymer melt stream at least 20 degrees C by heat exchange with a liquid heat transfer medium as it flow from an extruder to a forming mold. Moreover, Chang specifically teaches away from at least step 2 of Appellant's claimed process. Chang's polymer melt stream passes from the nozzle 21 of the plasticizer 20 to the mold 40 by way of the accumulator chamber 32. Chang teaches that "... the accumulator chamber is maintained in a heated condition by suitable heaters (not shown)..." See column 9, lines 1 and 2. Accordingly, Chang not only does not teach cooling of the polymer melt stream as it flows from the extruder to the mold cavity, but rather teaches that the polymer melt stream is to be heated by means of suitable heaters. This is diametrically opposed to Appellant's claimed process. For the Examiner or anyone else to suggest otherwise is simply disingenuous.

Jabarin is not properly combinable under 35 USC 103 with Chang, because Jabarin does not relate to the making of a blow molding preform (the subject of Chang and Appellant's Claims). Apparently, the Examiner cited Jabarin merely for the teaching that fluid may be used to heat or cool a blow molding cavity.

Jabarin discloses a method for blow molding an already-prepared preform into a container. Jabarin does not disclose a process for preparing a blow molding preform, as claimed by Appellant. Jabarin's process includes heating an already-prepared preform, and blow molding the heated preform in a mold cavity that contains internal mold heating and cooling channels. Thus, the blow molding mold may be heated or cooled by passing a heating or cooling liquid through the channels.

Jabarin does not cure the deficiencies of Chang. Neither Chang nor Jabarin, either alone or in combination, reverses Chang's teaching away from at least Appellant's step 2, which requires the cooling of the polymer melt stream between the extruder discharge and the forming mold.

In the outstanding final rejection, the Examiner infers that the sequence of Appellants steps is not important; and that any reference that discloses Appellant's steps 2 and 3 in reverse order would render Appellant's Claims unpatentable.

To the contrary, Appellant respectfully asserts that reversal of steps 2 and 3 would make Appellant's process inoperable. The Examiner suggests that Appellant's claimed process is equivalent to the steps of:

- A) melting polymer flakes in an extruder, to form a hot polymer melt stream;
- B) forming the polymer melt stream into a blow molding preform; and
- C) cooling the polymer melt stream 20 degrees.

However, as is readily apparent to even the simplest routineer, the polymer melt stream is no longer available to be cooled by the time step C is to be performed, since the polymer melt stream has already been formed into a blow molding preform. The preform itself may be cooled (as is shown in the prior art), but such cooling of the already-formed preform does not relate to or disclose Appellant's claimed process.

The Examiner cited MPEP 2144.04 (IV) (c) as support for the contention that the teaching of Appellant's claimed process in any order would necessarily disclose Appellant's claimed process steps in the order of 1, then 2, then 3. However, this section of the MPEP concerns "changes in sequence of adding ingredients." Thus, truly it makes no difference in the process of making pancake batter whether you add the milk, flour, or eggs first. Appellant's process, on the other hand, is not the mere mixing together of ingredients. It is a process that must occur in specific order; each step being necessary before the next step may be performed. Accordingly, the Examiner's citation to the MPEP section that deals with the order of mixing ingredients is misplaced.

Accordingly, Appellant respectfully requests that the Board reverse the Examiner's rejection of Claims 1 – 3 and 5 – 10.

## ARGUMENT II

Takahashi discloses polyester pellets. Takahashi does not disclose a process for preparing a blow molded preform, and so is not properly combinable under 35 USC 103 with Chang. Takahashi does not disclose the step of cooling a polymer melt stream at the discharge of a screw extruder, as is required in Appellant's process as set forth in Claim 4. Takahashi does not cure the deficiencies of Chang and Jabarin. More importantly, Takahashi does not reverse Chang's teaching that the polymer melt stream should be heated "... by suitable heaters..." between the extruder discharge and the mold cavity (which teaches away from Appellant's claimed process.

Accordingly, Appellant respectfully requests that the Board reverse the Examiner's rejection of Claim4.

## CLAIMS APPENDIX

1. (original) A process for preparing a blow molding preform, comprising:  
melting polymer flakes in a plasticating screw extruder, to prepare a homogeneous stream of hot polymer melt at the discharge of the extruder;  
cooling the polymer melt stream to a temperature at least 20 degrees Centigrade below the extruder discharge temperature, by heat exchange with a liquid heat transfer medium; and  
forming the cooled polymer melt into a blow molding preform.
2. (original) The process for preparing a blow molding perform according to Claim 1, wherein the polymer comprises polyethylene terephthalate, polyolefin, polyester, polyamide, acrylonitrile acid ester, vinyl chloride, or a derivative, blend, or a copolymer thereof.
3. (original) The process for preparing a blow molding preform according to Claim 2, wherein the polymer comprises polyethylene terephthalate.
4. (original) The process for preparing a blow molding perform according to Claim 1, wherein the polymer flakes comprise an average mean particle size from about 1/8 to about 3/4 inch.
5. (original) The process for preparing a blow molding perform according to Claim 1, wherein the temperature of the polymer melt at the discharge of the extruder ranges from about 225 degrees Centigrade to about 325 degrees Centigrade.
6. (original) The process for preparing a blow molding perform according to Claim 5, wherein the temperature of the polymer melt at the discharge of the extruder ranges from about 260 degrees Centigrade to about 290 degrees Centigrade.



7. (original) A process for preparing a blow molding preform, comprising:

melting polymer flakes, comprising polyethylene terephthalate, polyolefin, polyester, polyamide, acrylonitrile acid ester, vinyl chloride, or a derivative, blend, or a copolymer thereof, in a plasticating screw extruder, to prepare a homogeneous stream of hot polymer melt at the discharge of the extruder, the temperature of the polymer melt at the discharge of the extruder ranging from about 225 degrees Centigrade to about 325 degrees Centigrade;

cooling the polymer melt stream to a temperature at least 20 degrees Centigrade below the extruder discharge temperature, by heat exchange with a liquid heat transfer medium; and

forming the cooled polymer melt into a blow molding preform.

8. (original) The process for preparing a blow molding perform according to Claim 7, wherein the polymer comprises polyethylene terephthalate.

9. (original) The process for preparing a blow molding perform according to Claim 7, wherein the temperature of the polymer melt at the discharge of the extruder ranges from about 260 degrees Centigrade to about 290 degrees Centigrade.

10. (original) A process for preparing a blow molding preform, comprising:

melting polymer flakes, comprising polyethylene terephthalate, in a plasticating screw extruder, to prepare a homogeneous stream of hot polymer melt at the discharge of the extruder, the temperature of the polymer melt at the discharge of the extruder ranging from about 260 degrees Centigrade to about 290 degrees Centigrade;

cooling the polymer melt stream to a temperature at least 20 degrees Centigrade below the extruder discharge temperature, by heat exchange with a liquid heat transfer medium; and

forming the cooled polymer melt into a blow molding preform.

## EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.